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MICHIGAN VOCATIONAL-TECHNICAL EDUCATION R AND D NEEDS SURVEY. FINAL REPORT.

MICHIGAN STATE BOARD OF EDUCATION, LANSING

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A SURVEY WAS CONDUCTED TO IDENTIFY NEEDED VOCATIONAL AND TECHNICAL RESEARCH AND DEVELOPMENT ACTIVITIES AND TO DETERMINE PRIORITIES FOR THESE ACTIVITIES. A LIST OF 83 ITEMS WAS DEVELOPED FROM THE MICHIGAN DEPARTMENT OF EDUCATION "RESEARCH BULLETIN," NO. 703, TOPICS SUGGESTED AT AN ARIZONA CONFERENCE, AND PERSONAL CONTACTS WITH VOCATIONAL EDUCATORS. THE LIST WAS REFINED BY THE DIVISION OF VOCATIONAL EDUCATION STAFF TO INCLUDE 79 ITEMS. LOCAL DISTRICT VOCATIONAL EDUCATION DIRECTORS, INTERMEDIATE DISTRICT RESEARCH STAFFS, DISTRICT RESEARCH STAFFS, COMMUNITY COLLEGE STAFFS AND TEACHER EDUCATORS RETURNED 190 OF 235 OPINIONNAIRES AFTER RATING EACH ITEM ON A FIVE-POINT SCALE. ALL 53 ITEMS RANKING HIGH BY THESE GROUPS ARE INCLUDED IN THE REPORT IN RANK ORDER UNDER THE CATEGORIES--(1) CURRICULUM DEVELOPMENT, (2) COMMUNICATIONS, (3) MOTIVATION, (4) TEACHER EDUCATION, (5) COUNSELING, PLACEMENT AND FOLLOWUP, (6) PERSONS WITH SPECIAL NEEDS, (7) ADMINISTRATION, AND (8) GENERAL COMMENTS. RESPONDENTS IDENTIFIED 47 ADDITIONAL ITEMS CONSIDERED BY THEM AS WORTHY FOR RESEARCH OR DEVELOPMENT. HIGH PRIORITY ITEMS ARE BEING RECOMMENDED FOR PROPOSAL DEVELOPMENT AND FUNDING. (JM)

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Final Report

MICHIGAN VOCATIONAL - TECHNICAL EDUCATION

R& D NEEDS SURVEY

VOCATIONAL EDUCATION

RESEARCH COORDINATING UNIT

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MICHIGAN DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
RESEARCH COORDINATING UNIT

MICHIGAN VOCATIONAL-TECHNICAL EDUCATION RESEARCH AND DEVELOPMENT NEEDS SURVEY

Vocational Education was challenged by the Vocational Education Act of 1963 to improve existing programs and to provide new programs of vocational-technical education. Valid and reliable data will aid in making decisions regarding needed improvement and new programs.

The need for such data was recognized by the Program Development Section of the Division of Vocational Education, Michigan Department of Education. The Research Coordinating Unit (RCU) of the Program Development Section therefore surveyed key vocational educators and research persons of the State to:

1. Identify Research and Development activities that would aid in improving existing vocational education programs and in providing new vocational-technical education programs in Michigan.

2. Determine what research and developmental activities should be given priority in Michigan.

A list of 83 items was developed from three principle sources; namely:

1. Research, Bulletin No. 703 (Revised), The Michigan Department of Education, Lansing, Michigan, 1965.

2. The list of 101 topics identified in October of 1965 at the statewide conference held in Arizona.

3. Personal contacts with vocational educators.

A trial run conducted with the Division of Vocational Education Staff, resulted in some revision and deletions and a final list of 79 items.

Approximately 235 opinionnaires were mailed to Local Directors for Vocational Education, Intermediate District Vocational Education Consultants, Intermediate District Research Staffs, K-12 District Research Staffs, Community College Research Staffs, and to Vocational Educators in Teacher Education Institutions.

A total of 190 opinionnaires (70%) were returned. The number of returns and the percent by group surveyed are shown in Table 1, columns 2 and 3.

Respondents were asked to indicate on a 5-point rating scale their opinion of the importance of each research or development item. Responses were weighted and an average obtained for each item. The average scores (weighted mean) by groups surveyed are shown in Table 1, column 4. The standard deviation of scores about the mean was computed and shown in column 5. This value was added to the mean (average score), giving the values shown in Table 1, column 6.

All items from the opinionnaire receiving a score above that shown in column 6 of Table 1 were noted. Those items thus singled out by three or more of the groups surveyed appear in Table 2. Appendix I contains a list of items which received an over-all average of 3.5 or above.

Writing of project proposals is being stimulated by the RCU for those R & D items which received the highest priority. The RCU Resource Committee, consisting of a representative from each of the Services of the Division of Vocational Education and selected vocational educators, is working with the RCU on proposals. Projects thus identified are being recommended for funding from appropriate sources. It is anticipated that one or more projects will begin from a planning grant from State funds with eventual requests for funds under Section 4(c) of the Vocational Education Act of 1963. Drafts of proposals have been prepared in the areas of teacher preparation, curriculum, and counseling.

Survey results should also be useful to persons in local schools and community colleges as they consider Research and Development activities and to university students when searching for a thesis topic.

The RCU staff was pleased to find that many respondents took the time to suggest additional topics for consideration (See Appendix II).

TABLE 1

1 Group	2 No. Returns	3 Percent Returns	4 Average* Score	5 Standard Deviation	6 Mean (average) plus 1 Standard Deviation
Vocational Education Division Staff	24	75%	3.25	.45	3.70
Local Directors and Intermediate District Consultants	54	93%	3.79	.42	4.21
Intermediate District Research Staffs	13	59%	3.87	.22	4.09
K-12 District Research Staffs	59	63%	3.69	.37	4.06
Community College Research Staffs	25	83%	3.42	.70	4.12
University & College Research Staffs	15	42%	3.57	.45	4.02

*Expected average score on a 5-point scale would be 3.0.

TABLE 2

No. of Groups Giving Item a High Priority	Category	Item
All 6 Groups	Teacher Education	a. To determine changes needed in teacher preparation that will keep pace with knowledge and skills needed by teachers.
	Counseling, Placement, & Follow-up	b. A developmental project to demonstrate improved techniques for providing improved vocational guidance for students.
5 Groups	Curriculum Development	a. To determine the specialized vocational education curriculum needed at the senior high school level.
		b. To determine the types of "pre-technical" education programs that should be offered at the secondary level in preparation for post-secondary programs.
		c. To determine the role of the area school and its relationship to the high schools of its service area and to the community college.
4 Groups	Curriculum Development	a. To determine the basic vocational and/or technical education (the broad, exploratory, pre-vocational instruction) curriculum needed at the junior and senior high school level.
		b. To determine specialized and technical education curricula needed in post-high school programs.
	Communications	c. A developmental project to establish improved methods of providing occupational information to counselors and to students.

TABLE 2--Continued

No. of Groups Giving Item a High Priority	Category	Item
4 Groups	Teacher Education	d. A developmental project to design teacher education programs for preparing teachers for emerging job cluster curricula concept.
3 Groups	Curriculum Development	a. To determine the role of business and industry in training for employment.
	Communications	b. A developmental project to demonstrate improved methods of communication between employers and educators.
	Motivation	c. An experimental project(s) to determine effective motivation of the disadvantaged.
	Administration	d. A study of needs to remove barriers to training program progress (laws, regulations, certification restrictions, tradition).
		e. A survey of other states to determine methods of allocating funds and to study the possibility of more effective methods for Michigan.
	General	f. The establishment of an instructional materials center for vocational-technical education.

APPENDIX I

LISTING OF ITEMS RECEIVING AN AVERAGE RATING OF 3.5 OR ABOVE FROM ALL RESPONDENTS

CURRICULUM DEVELOPMENT

1.	To determine the specialized vocational education curriculum needed at the senior high school level.	4.410
2.	To determine the role of business and industry in training for employment.	4.305
3.	To determine the basic vocational and/or technical education (the broad, exploratory, pre-vocational instruction) curriculum needed at the junior and senior high school level.	4.297
4.	To determine the types of "pre-technical" education programs that should be offered at the secondary level in preparation for post-secondary programs.	4.267
5.	To determine specialized and technical education curricula needed in post-high school programs.	4.248
6.	To determine the role of the area school and its relationship to the high schools of its service area and to the community college.	4.209
7.	A developmental study to determine the types of industrial education needed.	3.987
8.	A research project of sufficient scope to combine in one large project the determination of roles of the various levels of education for employment.	3.848
9.	A series of developmental studies on how to provide various types of distributive education and office occupation education effectively on an area basis.	3.820
10.	A developmental project to demonstrate the need for and the effectiveness of a combined program of business education, home economics, and trade and industrial education for occupational preparation in the food service area.	3.817
11.	A developmental study on how to provide education for health related occupations an an area basis.	3.815
12.	To determine the pre-vocational and exploratory information and experiences needed at the junior high school level.	3.790

CURRICULUM DEVELOPMENT--Continued

13. A developmental project to establish a core of courses which will serve several specified job classifications.	3.771
14. A developmental study on how to provide education for wage-earning occupations related to home economics on an area basis.	3.769
15. A developmental project to initiate new and improved programs of health education.	3.727
16. To determine the role of the junior high school in education for employment.	3.682
17. A study to determine interest and need for wage-earning courses based on home economics knowledge and skills.	3.550
18. To determine curricula needed at the elementary level to provide an introduction to occupational information and to emphasize the importance of work.	3.517

COMMUNICATIONS

1. A developmental project to establish improved methods of providing occupational information to counselors to students.	4.273
2. A developmental project to demonstrate improved methods of communication between employers and educators.	3.982

MOTIVATION

1. A study to explore ways of finding out and meeting the wide range of abilities, interests, and needs of high school students.	3.961
2. An experimental project(s) to determine effective motivation of the disadvantaged.	3.857
3. A study of motivational factors confronting the disadvantaged.	3.798
4. A study to explore effective ways of moving from a teaching situation in which students look to the teacher to initiate and direct their learning experiences to one in which each student is becoming a self-directive person in all aspects of his work.	3.675

MOTIVATION--Continued

5.	A study of motivational factors affecting adults and their decision to continue education.	3.670
6.	A study to explore effective ways of increasing the emphasis on learning by doing rather than on subject matter.	3.664
7.	A study to explore effective ways of increasing the emphasis on what is being learned rather than on what is being done and of relating new learning to accepted values and goals.	3.611

TEACHER EDUCATION

1.	To determine changes needed in teacher preparation that will keep pace with knowledge and skills needed by teachers.	4.482
2.	A developmental project to design teacher education programs for preparing teachers for the emerging job cluster curricula concept.	4.141
3.	A study to determine effective means for bringing technicians and other trade persons into the classroom to relieve the teacher shortage.	4.047
4.	A developmental project to provide in-service education needed by former trades persons who are now teaching.	3.871
5.	A developmental program to encourage youth to become teachers.	3.854
6.	A study to determine ways to finance and provide refresher programs to retrain teachers.	3.696
7.	A study of relative effectiveness of teachers with various levels of educational training and occupational experience.	3.560
8.	A study of technical skills which vocational teachers possess in relationship to the skills needed.	3.557
9.	A project designed to recruit and provide teacher education for students enrolled in two-year associate degree programs in community colleges.	3.512

COUNSELING, PLACEMENT, & FOLLOW-UP

1.	A developmental project to demonstrate improved techniques for providing improved vocational guidance for students.	4.343
2.	A developmental project to determine effective incentives for encouraging teachers and counselors to secure additional occupational experience.	3.982
3.	A research project to determine the relative effectiveness of actual work experience and simulated work experience for teachers and counselors.	3.850
4.	A developmental project to provide a mobile vocational counseling unit for schools in sparsely settled areas.	3.691

PERSONS WITH SPECIAL NEEDS

1.	A study of deprived youth to determine factors responsible for a syndrome of failure and methods of alleviating this self-concept obstacle in the selection and pursuit of vocational-technical education.	3.898
2.	A study to identify the needs of the socio-economic handicapped for job preparation and upgrading.	3.753
3.	A developmental project for the mentally and/or physically handicapped for which the regular vocational-technical education program is inadequate for job preparation.	3.736
4.	A study of the needs of persons with special needs identified from Title I project of the Elementary-Secondary Education Act having implications for vocational-technical education.	3.524

ADMINISTRATION

1.	A study of needs to remove barriers to training program progress (laws, regulations, certification restrictions, tradition).	4.018
2.	A survey of other states to determine methods of allocating funds and to study the possibility of more effective methods for Michigan.	3.950
3.	A task force to update vocational-technical education goals and objectives and determine evaluative criteria in preparation for the January 1968 Evaluation Report to Congress and the President.	3.903

ADMINISTRATION--Continued

4.	An evaluation of vocational-technical education in Michigan with completion date January 1, 1968.	3.858

GENERAL

1.	The establishment of an instructional materials center for vocational-technical education.	4.163
2.	A survey to determine the effectiveness of the work-study program in reducing the number of dropouts.	3.872
3.	A developmental project to demonstrate effective utilization of the technical resources available in an area.	3.653
4.	A study to determine whether occupational interests and aspirations of student match with job projections to 1980 to come from the Battelle project.	3.511

APPENDIX II

ITEMS ADDED BY RESPONDENTS

CURRICULUM DEVELOPMENT

A project to determine the relative value of related instruction versus shop work.

A study to determine ways and means of improving the "image" of vocational education among students, parents, and educators.

Develop means for assembling, organizing, and disseminating related information to directors, coordinators, teachers, and others (publications, research, etc.).

To determine the job skills and related information to each job cluster.

A project to determine the probability of combining the various vocational education fields into one operation (business situation--work flow type with each dependent on the other for their work and achievement.

To determine the role of the junior high school, the high school, and the community college in the area of vocational education.

Study to determine more valuable use of free time.

The high school's part in pre-technical training.

How to make better use of high school time for students not going on to a four-year college.

Further study of parental needs and attitudes toward their children entering vocational-technical education programs.

A study to determine the occupational opportunities (job clusters) by type of community.

Find ways to educate the community and state legislatures of the need for money to construct vocational schools as many states are doing.

To determine the feasibility of extending school year in regular day school vocational programs.

A study to determine role of advisory committees in curriculum development at all levels of education.

COMMUNICATIONS

A project to demonstrate methods of communication between employers and students by-passing educators.

Improve utilization of available information by counselors and students.

A project designed to establish better communication and articulation in vocational education (K through community college).

A project to establish better communication methods between public and private schools.

A developmental and demonstration project relating to the most effective use of local (area) news media in the establishing and maintaining of area schools.

A study of the effect that an intense public information (on vocational needs and opportunities) program has on student motivation.

TEACHER EDUCATION

A study to demonstrate what the local school district should do in order to attract good teachers in technical areas.

A study to determine what should be done to encourage young people to become teachers in technical areas.

How can colleges and universities prepare prospective teachers for technical programs?

What effect does salary and facilities have on a prospective teacher's decision to accept employment with a particular school system?

A study to determine the entrance requirements of Michigan colleges and universities for high school graduates wishing to major in Trade, Industrial, and Technical Teaching and/or Administration.

A study to determine what constitutes an acceptable program of teacher education for vocational teachers--industry and business.

A study to develop minimum standards for facilities for accreditation as an institution to prepare vocational, industrial arts, and business education teachers.

Having more college or in-service programs which teachers can apply directly to their work.

Study preparation needed by the junior high exploratory shop teacher as well as the high school pre-vocational teacher.

TEACHER EDUCATION--Continued

What effect does participation in research have on the effectiveness of instruction?

A project to determine or demonstrate the need for teacher preparation in the field of reading at the secondary level.

Reguire all academic educators including counselors to take courses in vocational education (1) Philosophy of Vocational Education (2) Occupational Analysis.

PERSONS WITH SPECIAL NEEDS

Develop a pilot project to adjust curriculum to the needs of the early identified potential school leavers.

COUNSELING, PLACEMENT, & FOLLOW-UP

A method of counselor training in career background.

To establish a meaningful criteria by which to evaluate the standards and requirements of the vocational education program as related to the occupational objectives of the students.

A developmental project to establish improved methods of providing occupational information to the parents of students and to other adults of an area.

A project to establish improved methods of providing occupational information to parents.

A project designed to emphasize the dignity of no degree occupations for counselors.

Use of vocational educators as counselors.

A study to explore ways of inspiring people to develop their full potential as a human being.

Communication of occasional information to parents--to destroy the concept that "the only road to success is a college education."

ADMINISTRATION

A complete study to re-write labor laws.

Determine how to obtain enough funds to provide adequate facilities for education.

ADMINISTRATION--Continued

A study to determine better ways to finance education so that all areas of the State may have the means of providing the same educational advantages of the regular comprehensive high school and technical school.

A study of ways to change the fundamental financing of public schools from property taxes to some other more equitable tax.

To determine union responsibility in promoting or inhibiting occupational training programs.

A research project to determine a possible program of vocational training to fit needs of inmates at State Correction Department institutions such as Camp Pugsley (16-21 years).